Half of these deaths were due to "natural" causes, i.e., causes not involving accident, injury, or poisoning, while the next largest categories were motor vehicle accidents, other accidents, suicide, and homicide.

A large amount of information is collected for each death investigated by a Medical Examiner, and these data are computerized at the Office of the Chief Medical Examiner in Chapel Hill. This information is compiled from a death certificate completed by the Medical Examiner, a detailed "Report of Investigation by Medical Examiner," an autopsy report if an autopsy was performed, a motor vehicle crash report (if appropriate), and the results of a variety of toxicology laboratory tests. One of the most frequent toxicology tests is a blood test for ethanol. During 1980-1984 approximately 77 percent of the deaths investigated by the Medical Examiners had a blood alcohol test. The most frequent reasons for not performing a blood alcohol test are if the decedent were very young, if the person survived for more than a few hours after the precipitating cause of death and thus would have metabolized any alcohol in the blood, or if the body had undergone advanced decomposition which would alter the test results. In determining the role of alcohol in deaths investigated by the Medical Examiners, we will be relying on the results of the blood alcohol tests.

A person is legally intoxicated in North Carolina if his blood alcohol percent is .10 or greater. This is also sometimes referred to as a level of 100 mg%. Table 6 shows an average blood alcohol percentage that would be expected given a specified number of drinks and body weight in pounds. A 180 pound person, for example, would have to consume five drinks in about an hour in order to be legally intoxicated.

TABLE 6

Approximate Blood Alcohol Percentage

Drinks	Body Weight in Pounds							
	100	120	140	160	180	200	220	240
1	.04	.03	.03	.02	.02	.02	.02	.02
2	.08	.06	.05	.05	.04	.04	.03	.03
3	.11	.09	.08	.07	.06	.06	.05	.05
4	.15	.12	.11	.09	.08	.08	.07	.06
5	.19	.16	.13	.12	.11	.09	.09	.08
6	.23	.19	.16	.14	.13	.11	.10	.09
7	.26	.22	.19	.16	.15	.13	.12	.11
8	.30	.25	.21	.19	.17	.15	.14	.13
9	.34	.28	.24	.21	.19	.17	.15	.14
10	.38	.31	.27	.23	.21	.19	.17	.16

Subtract .01% for each 40 minutes of drinking.
One drink is 1 oz. of 100 proof liquor or 12 oz. of beer.

Example: 160 lb. man takes 7 drinks in 4 hours (240 min.)
.16–.06 = .10% of blood alcohol.

Less than 10 percent of the 1980-1984 deaths due to natural causes that were investigated by the Medical Examiner and tested for blood alcohol had a level of 100 mg% or greater. But for accidental and violent causes the picture is much different. Figure 2 shows a major involvement of alcohol in deaths age 15 and over due to homicide, suicide, motor vehicle accidents, drowning, and fire. Nearly 60 percent of homicide victims who were tested had some alcohol measured in their blood and approximately 45 percent were legally intoxicated. Almost 60 percent of persons dying by fire had a blood alcohol level of 100 mg% or greater. Nearly 85 percent of the 1980-1984 deaths age 15 and over from the five causes shown in Figure 2 were tested for blood alcohol. Among these, the percents shown are based on 2692 homicides, 3270 suicides, 4795 motor vehicle accident deaths, 686 drownings, and 626 deaths by fire.

The percentages of alcohol involvement shown in Figure 2 are much higher than what would be derived from looking at alcohol diagnoses on the death certificates. For example, only 4.2 percent of the 1980-1984 death certificates for persons age 15 and over who died from homicide had any mention of an alcohol diagnosis. Direct matching of death certificate records to the Medical Examiner file for the period 1980-1983 revealed that, of all the Medical Examiner records showing a blood alcohol level of 100 mg% or greater at the time of death (all causes), only one-third of the corresponding death certificates had any mention of an alcohol diagnosis. This discrepancy could be due to several factors. Since the blood ethanol test results are usually available after the death certificate is sent to the vital records office by the Medical Examiner, in some cases the death certificate diagnoses may not be amended later to indicate alcohol as a contributing cause of death. Like other physicians, Medical Examiners may sometimes refrain from indicating alcohol involvement on the death certificate in order to protect the next of kin. Or in some instances a person could be legally intoxicated at the time of death, but the Medical Examiner deemed that the alcohol did not ***contribute*** to the death, which is usually a prerequisite for recording it on the death certificate. In any case, the death certificate diagnoses do not presently reflect the true prevalence of alcohol involvement in mortality.

Figure 3 depicts homicide deaths by means of death. Nearly 60 percent of persons killed by sharp instruments had a blood alcohol level of 100 mg% or greater, followed by about 50 percent for shotguns and 45 percent for handguns and rifles. Handguns account for approximately one-third of homicides, followed by sharp instruments and shotguns at about 15 percent each.

Figure 4 shows substantial differences in alcohol involvement in motor vehicle deaths by accident type and decedent's involvement. Over 60 percent of drivers in a single vehicle accident who died and were tested for blood alcohol had a level of 100 mg% or greater. Fifty-five